IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Previously Presented): A method of developing a latent image formed on a surface of an image carrier with toner grains, said toner grains comprising a developer together with magnetic carrier grains, said developing method comprising:

depositing said developer on a developer carrier, which faces said image carrier and accommodates magnets therein, causing said developer carrier to convey said developer to a developing zone formed between said image carrier and said developer carrier; and

forming, in said developing zone, a magnet brush consisting of said magnetic carrier grains, which hold said toner grains thereon and gather in a form of brush chains, and free toner grains to be released from said carrier grains, at least one position where said brush chains of said magnetic carrier grains rise exists in a portion where an electric field formed between a facing zone where said image carrier and said developer carrier face each other has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R\ )}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 2 (Original): The method as claimed in claim 1, wherein when the brush chains of the carrier grains rise on the developer carrier, a magnet present in said developing zone separates tips of the magnet brush from a developer layer formed on said developer carrier by the carrier grains.

Claim 3 (Original): The method as claimed in claim 1, wherein when the brush chains of the carrier grains fall down on said developer carrier, a magnet present in the developing zone causes the tips of the magnet brush join a developer layer formed on said developer carrier by the carrier grains.

Claim 4 (Previously Presented): The method as claimed in claim 1, wherein a ratio of a linear velocity V_{SL} of said developer carrier to a linear velocity Vp of said image carrier (V_{SL} /Vp) is greater than 0.9, but smaller than 4.

Claim 5 (Original): The method as claimed in claim 1, wherein development is effected by an alternating electric field formed between said image carrier and said developer carrier.

Claim 6 (Previously Presented): A method of developing a latent image formed on a surface of an image carrier with toner grains, said toner grains comprising a developer together with magnetic carrier grains, said method comprising:

depositing said developer on a developer carrier, which faces said image carrier and accommodates magnets therein, causing said developer carrier to convey said developer to a developing zone formed between said image carrier and said developer carrier; and

forming, in said developing zone, a magnet brush consisting of said magnetic carrier grains, which hold said toner grains thereon and gather in a form of brush chains, and free toner grains to be released from said carrier grains, at least one continuous position where said brush chains of said magnetic carrier grains rise and then fall down exists in a portion where an electric field formed between a facing zone where said image carrier and said developer carrier face each other has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R)}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 7 (Original): The method as claimed in claim 6, wherein when the brush chains of the carrier grains rise on the developer carrier, a magnet present in said developing zone separates tips of the magnet brush from a developer layer formed on said developer carrier by the carrier grains.

Claim 8 (Original): The method as claimed in claim 6, wherein when the brush chains of the carrier grains fall down on said developer carrier, a magnet present in the developing zone causes the tips of the magnet brush join a developer layer formed on said developer carrier by the carrier grains.

Claim 9 (Previously Presented): The method as claimed in claim 6, wherein a ratio of a linear velocity V_{SL} of said developer carrier to a linear velocity Vp of said image carrier (V_{SL} /Vp) is greater than 0.9, but smaller than 4.

Claim 10 (Original): The method as claimed in claim 6, wherein development is effected by an alternating electric field formed between said image carrier and said developer carrier.

Claim 11 (Previously Presented): A method of developing a latent image formed on a surface of an image carrier with toner grains, said toner grains comprising a developer together with magnetic carrier grains, said method comprising:

depositing said developer on a developer carrier, which faces said image carrier and accommodates magnets therein, and causing said developer carrier to convey said developer to a developing zone formed between said image carrier and said developer carrier, said magnetic carrier grains, holding said toner grains thereon, splash said toner grains toward said image carrier in a zone where an electric field formed in a facing zone, in which said image carrier and said developer carrier face each other, has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R\ )}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c D^3 \rho_c/(100 - T_c) d^3 \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes

the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854×10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 12 (Original): The method as claimed in claim 11, wherein the magnet brush formed in the developing zone is caused to contact said image carrier and release the toner grains from the carrier grains, and said toner grains released are splashed toward said image carrier.

Claim 13 (Original): The method as claimed in claim 11, wherein the magnet brush formed in the developing zone is caused to contact said image carrier and remove toner grains present on said image carrier.

Claim 14 (Previously Presented): The method as claimed in claim 11, wherein a ratio of a linear velocity V_{SL} of said developer carrier to a linear velocity Vp of said image carrier (V_{SL} /Vp) is greater than 0.9, but smaller than 4.

Claim 15 (Original): The method as claimed in claim 11, wherein development is effected by an alternating electric field formed between said image carrier and said developer carrier.

Claim 16 (Previously Presented): A method of developing a latent image formed on a surface of an image carrier with toner grains, said toner grains comprising a developer together with magnetic carrier grains, said method comprising:

depositing said developer on a developer carrier, which faces said image carrier and accommodates magnets therein, and causing said developer carrier to convey said developer

to a developing zone formed between said image carrier and said developer carrier, a magnet brush formed by said magnetic carrier grains, holding said toner grains thereon, rub or adjoin said image carrier in a zone where an electric field formed in a facing zone, in which said image carrier and said developer carrier face each other, has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R\ )}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_o is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 17 (Original): The method as claimed in claim 16, wherein the magnet brush rubs or adjoins said image carrier to thereby remove toner grains present on said image carrier.

Claim 18 (Previously Presented): The method as claimed in claim 16, wherein a ratio of a linear velocity V_{SL} of said developer carrier to a linear velocity Vp of said image carrier (V_{SL} /Vp) is greater than 0.9, but smaller than 4.

Claim 19 (Original): The method as claimed in claim 16, wherein development is effected by an alternating electric field formed between said image carrier and said developer carrier.

Claim 20 (Previously Presented): A method of developing a latent image formed on a surface of an image carrier with toner grains, said toner grains comprising a developer together with magnetic carrier grains, said method comprising:

depositing said developer on a developer carrier, which faces said image carrier and accommodates magnets therein, and causing said developer carrier to convey said developer to a developing zone formed between said image carrier and said developer carrier, a magnet brush, consisting of said magnetic carrier grains holding said toner grains thereon and gathering in a form of brush chains, and free toner grains to be released from said carrier grains is formed, said toner grains are released when said brush chains rise and then fall, said magnet brush contact said image carrier to thereby splash said free toner grains toward said image carrier and said magnet brush rubs or adjoins said developer carrier in a zone where an electric field formed in a facing zone, in which said image carrier and said developer carrier face each other, has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R\ )}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_o is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 21 (Original): The method as claimed in claim 20, wherein the magnet brush formed in the developing zone is caused to contact said image carrier to release the toner grains, and said magnet brush rubs or adjoins said image carrier to thereby remove toner grains present on said image carrier.

Claim 22 (Previously Presented): The method as claimed in claim 20, wherein a ratio of a linear velocity V_{SL} of said developer carrier to a linear velocity Vp of said image carrier (V_{SL} /Vp) is greater than 0.9, but smaller than 4.

Claim 23 (Original): The method as claimed in claim 20, wherein development is effected by an alternating electric field formed between said image carrier and said developer carrier.

Claim 24 (Previously Presented): A method of developing a latent image formed on a surface of an image carrier with toner grains, said toner grains comprising a developer together with magnetic carrier grains, said method comprising:

depositing said developer on a developer carrier, which faces said image carrier and accommodates magnets therein, and causing said developer carrier to convey said developer to a developing zone formed between said image carrier and said developer carrier, a magnet brush, consisting of said magnetic carrier grains holding said toner grains thereon and gathering in a form of brush chains, and free toner grains to be released from said carrier grains is formed, said toner grains are released when said brush chains rise and then fall and said magnet brush adjoins said image carrier in a zone where an electric field formed in a facing zone, in which said image carrier and said developer carrier face each other, has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R)}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_o is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 25 (Original): The method as claimed in claim 24, wherein the magnet brush formed on said developer carrier performs development without contacting said image carrier.

Claim 26 (Original): The method as claimed in claim 24, wherein when the brush chains of the carrier grains rise on the developer carrier, a magnet present in said developing zone separates tips of the magnet brush from a developer layer formed on said developer carrier by the carrier grains.

Claim 27 (Original): The method as claimed in claim 24, wherein when the brush chains of the carrier grains fall down on said developer carrier, a magnet present in the developing zone causes the tips of the magnet brush join a developer layer formed on said developer carrier by the carrier grains.

Claim 28 (Previously Presented): A device for forming an image comprising:

a developer carrier, facing an image carrier and accommodating magnets therein, and causing said developer carrier to convey a two-component type developer, which is made up of toner grains and magnetic carrier grains holding said toner grains, to a developing zone, applying an electric field between said developer carrier and said image carrier, and forming, in said developing zone;

a magnet brush consisting of said magnetic carrier grains, which hold said toner grains thereon and gathering in a form of brush chains, and free toner grains to be released from said carrier grains to thereby develop a latent image formed on said image carrier; and

at least one position where said brush chains of said magnetic carrier grains rise exists in a portion where said electric field has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R\ )}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 29 (Previously Presented): A device for forming an image comprising:

a developer carrier, facing an image carrier and accommodating magnets therein, and causing said developer carrier to convey a two-component type developer, which is made up of toner grains and magnetic carrier grains holding said toner grains, to a developing zone,

applying an electric field between said developer carrier and said image carrier, and forming, in said developing zone;

a magnet brush consisting of said magnetic carrier grains, which hold said toner grains thereon and gathering in a form of brush chains, and free toner grains to be released from said carrier grains to thereby develop a latent image formed on said image carrier; and

at least one continuous position where said brush chains of said magnetic carrier grains rise and then fall down exists in a portion where said electric field has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R)}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 30 (Previously Presented): A device for forming an image comprising:

a developer carrier, facing an image carrier and accommodating magnets therein, and causing said developer carrier to convey a two-component type developer, which is made up of toner grains and magnetic carrier grains holding said toner grains, to a developing zone, and applying an electric field between said developer carrier and said image carrier to thereby develop a latent image formed on said image carrier, said magnetic carrier grains, holding

said toner grains thereon, splash said toner grains toward said image carrier in a zone where said electric field has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R\ )}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 31 (Previously Presented): A device for forming an image comprising:

a developer carrier, facing an image carrier and accommodating magnets therein, and causing said developer carrier to convey a two-component type developer, which is made up of toner grains and magnetic carrier grains holding said toner grains, to a developing zone, and applying an electric field between said developer carrier and said image carrier to thereby develop a latent image formed on said image carrier; and

a magnet brush formed by said magnetic carrier grains, holding said toner grains thereon, rub or adjoin said image carrier in a zone where said electric field has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R\ )}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 32 (Previously Presented): A device for forming an image comprising:

a developer carrier, facing an image carrier and accommodating magnets therein, and causing said developer carrier to convey a two-component type developer, which is made up of toner grains and magnetic carrier grains holding said toner grains, to a developing zone, and applying an electric field between said developer carrier and said image carrier to thereby develop a latent image formed on said image carrier; and

a magnet brush, consisting of said magnetic carrier grains holding said toner grains thereon and gathering in a form of brush chains, and free toner grains to be released from said carrier grains is formed, said toner grains are released when said brush chains rise and then fall and said magnet brush adjoins said image carrier in a zone where said electric field has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R\ )}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes

the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854×10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 33 (Previously Presented): A device for forming an image comprising:

a developer carrier, facing an image carrier and accommodating magnets therein, and causing said developer carrier to convey a two-component type developer, which is made up of toner grains and magnetic carrier grains holding said toner grains, to a developing zone, and applying an electric field between said developer carrier and said image carrier to thereby develop a latent image formed on said image carrier; and

a magnet brush, consisting of said magnetic carrier grains holding said toner grains thereon and gathering in a form of brush chains, and free toner grains to be released from said carrier grains is formed, said toner grains are released when said brush chains rise and then fall and said magnet brush adjoins said image carrier in a zone where said electric field has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R)}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854×10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 34 (Previously Presented): An image forming apparatus comprising:

a photoconductive image carrier configured to form a latent image thereon;

a charger configured to uniformly charge said image carrier;

a developing device facing said image carrier, storing toner grains and magnetic carrier grains supporting said toner grains and configured to form a toner image on said image carrier; and

an image transferring device configured to transfer the toner image from said drum to a recording medium;

wherein at least one position where brush chains formed by the magnetic carrier grains rise exists in a portion where an electric field formed between said developer carrier and said image carrier has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R\ )}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_o is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 35 (Previously Presented): An image forming apparatus comprising:

a photoconductive image carrier configured to form a latent image thereon;

a charger configured to uniformly charge said image carrier;

a developing device facing said image carrier, storing toner grains and magnetic carrier grains supporting said toner grains and configured to form a toner image on said image carrier; and

an image transferring device configured to transfer the toner image from said drum to a recording medium;

wherein at least one continuous position where brush chains formed by said magnetic carrier grains rise and then fall down exists in a portion where an electric field formed between a facing zone where said image carrier and said developer carrier face each other has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R\ )}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_o is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 36 (Previously Presented): An image forming apparatus comprising:

a photoconductive image carrier configured to form a latent image thereon;

a charger configured to uniformly charge said image carrier;

a developing device facing said image carrier, storing toner grains and magnetic carrier grains supporting said toner grains and configured to form a toner image on said image carrier; and

an image transferring device configured to transfer the toner image from said drum to a recording medium;

wherein the magnetic carrier grains, holding the toner grains thereon, splash said toner grains toward said image carrier in a zone where an electric field formed in a facing zone, in which said image carrier and said developer carrier face each other, has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R)}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 37 (Previously Presented): An image forming apparatus comprising:

a photoconductive image carrier configured to form a latent image thereon;

a charger configured to uniformly charge said image carrier;

a developing device facing said image carrier, storing toner grains and magnetic carrier grains supporting said toner grains and configured to form a toner image on said image carrier; and

an image transferring device configured to transfer the toner image from said drum to a recording medium;

wherein a magnet brush formed by said magnetic carrier grains, holding said toner grains thereon, rub or adjoin said image carrier in a zone where an electric field formed in a facing zone, in which said image carrier and said developer carrier face each other, has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R)}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 38 (Previously Presented): An image forming apparatus comprising:

a photoconductive image carrier configured to form a latent image thereon;

a charger configured to uniformly charge said image carrier;

a developing device facing said image carrier, storing toner grains and magnetic carrier grains supporting said toner grains and configured to form a toner image on said image carrier; and

an image transferring device configured to transfer the toner image from said drum to a recording medium;

wherein a magnet brush, consisting of said magnetic carrier grains holding said toner grains thereon and gathering in a form of brush chains, and free toner grains to be released from said carrier grains is formed, said toner grains are released when said brush chains rise

and then fall, said magnet brush contact said image carrier to thereby splash said free toner grains toward said image carrier and said magnet brush rubs or adjoins said developer carrier in a zone where an electric field formed in a facing zone, in which said image carrier and said developer carrier face each other, has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R)}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_0 is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claim 39 (Previously Presented): An image forming apparatus comprising:

a photoconductive image carrier configured to form a latent image thereon;

a charger configured to uniformly charge said image carrier;

a developing device facing said image carrier, storing toner grains and magnetic carrier grains supporting said toner grains and configured to form a toner image on said image carrier; and

an image transferring device configured to transfer the toner image from said drum to a recording medium;

wherein a magnet brush, consisting of said magnetic carrier grains holding said toner grains thereon and gathering in a form of brush chains, and free toner grains to be released from said carrier grains is formed, said toner grains are released when said brush chains rise

and then fall and said magnet brush adjoins said image carrier in a zone where an electric field formed in a facing zone, in which said image carrier and said developer carrier face each other, has a strength E (V/m) expressed as:

$$E \geq \left| \frac{(A \cdot \rho_T \cdot d \cdot R\ )}{\left(3B^{\frac{1}{2}} \cdot \varepsilon_0 \cdot V_{SL}\right)} \right|$$

where B is representative of $T_c \cdot D^3 \cdot \rho_c/(100 - T_c) \cdot d^3 \cdot \rho_T$, A denotes a mean amount of charge (C/kg) deposited on the toner grains, T_c denotes the content of toner grains (wt%), d denotes the mean grain size (m) of the toner grains, D denotes the mean grain size (m) of the magnetic carrier grains, ρ_T denotes the specific weight (kg/m^3) of the toner grains, ρ_c denotes the specific gravity (kg/m^3) of the carrier grains, ϵ_o is 8.854 x 10^{-12} (F/m), R denotes the diameter of the developer carrier, and V_{SL} denotes the linear velocity of the developer carrier.

Claims 40-75 (Canceled).